SHOPPING FOR SAFETY

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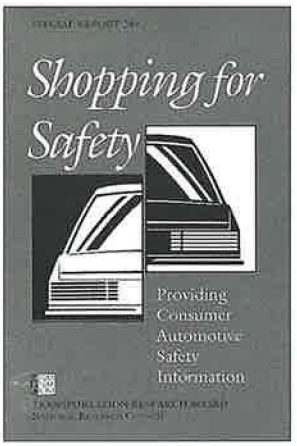

Special Report 248, *Shopping for Safety*, is available from the Transportation Research Board (see page 36 for ordering information).

The recommendations of a recently published, congressionally mandated study could lead to consumers being provided with automotive safety information that is more comprehensive and simpler to acquire and use than is currently available. In Special Report 248, *Shopping for Safety*, a study funded by the National Highway Traffic Safety Administration and published by the Transportation Research Board, consumer needs for safety information and the most cost-effective and useful methods of communicating this information are examined. The primary focus is on the development and communication of better information for new-car buyers and for safety-conscious consumers in particular.

WHAT IS VEHICLE SAFETY?

One way to define vehicle safety is to divide it into two categories: vehicle-design characteristics and features to reduce the likelihood of being in a crash (crash avoidance), and features that protect occupants from harm during a crash (crashworthiness). Experts agree that driver error or inappropriate driver behavior such as drunk and reckless driving are the dominant factors affecting the probability of being in a crash. When a crash occurs, vehicle features play an important role in providing occupant protection. Characteristics that contribute to crashworthiness include size and weight, how the vehicle absorbs energy, and attributes of the restraint system. Although drivers cannot change certain risk factors, such as their age or the driving behavior of others, they can select the safest possible vehicle to meet their needs and decrease the likelihood of accident and injury.

CURRENT CONSUMER INFORMATION

Considerable information is available to consumers about vehicle safety. NHTSA, the agency with statutory authority to provide consumer automotive safety information, makes available comparative data on the crashworthiness of vehicles in the same class from full-frontal crash tests conducted in its New Car Assessment Program. The insurance industry publishes information about injury claims and death rates by vehicle make and model, and recently has provided comparative data on vehicle crashworthiness in offset-frontal crash tests, representing a more common type of frontal crash. Manufacturers advertise the safety features of their vehicles. Consumers Union, publisher of *Consumer Reports*, runs tests of such vehicle-safety characteristics as emergency handling and braking performance. Consumers Union and, more recently, NHTSA and the Insurance Institute for Highway Safety have attempted to compile comparative vehicle-safety information in consumer-oriented publications.

Current safety information, however, is incomplete and difficult for consumers to pull together in any summary assessment and comparison of the overall performance of different vehicles. Current crash-test results can be compared only among vehicles in the same size and weight class. The results of such comparisons do not reflect the inherent advantage of heavier and larger cars in more severe crashes. The repeatability of crash-test results is also an issue because cost considerations preclude repeated testing of the same model. Finally, current crash tests are focused on frontal crashes, which do not provide a comprehensive picture of vehicle crashworthiness in the context of real-world variation in crash configurations and speeds.

CONSUMER DECISIONS AND INFORMATION REQUIREMENTS

Market surveys suggest the existence of a growing market segment of safety-conscious purchasers of new cars. It is unclear what automobile consumers understand about safety or how they incorporate safety information into their decisions. The available survey data suggest that safety considerations are used most often to help narrow choices among specific makes and models after consumers have settled on a general type of vehicle using decision factors such as intended use, budget constraints, and other preferences. A better understanding of what consumers know and believe about vehicle safety is important to the design of relevant and useful communications.

After the context and content of the information are more clearly defined, determining how best to communicate and disseminate it is also a matter for empirical study. Information is likely to be considered if it is simple to acquire and use and is provided at the appropriate time. The limited information available suggests that consumers would like a standardized comprehensive vehicle-safety rating applied to all passenger vehicles; independent sources of information (e.g., the government); and availability of information early in the search process, not just at the point of sale.

STUDY FINDINGS

On the basis of a review of knowledge about vehicle-safety characteristics, crash likelihood, and injury causation as well as the information currently available to consumers, the Committee

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for Study of Consumer Automotive Safety Information concluded that although considerable information about vehicle-safety characteristics and features is available to consumers, it is not always timely, accessible, or in a form that readily supports comparison shopping. Several steps could be taken in the short term to address these limitations (Figure 1). In the long term, summary measures of vehicle safety would help consumers incorporate safety into purchasing decisions.

Development of a defensible summary measure of vehicle crashworthiness is only feasible if current knowledge is supplemented with expert judgment and if uncertainties are acknowledged, according to the committee. The most reliable estimates can probably be achieved if experts begin with information about the relationship between crashworthiness and vehicle weight and size. The analysis of this information should be combined with expert professional judgment to incorporate results from crash tests, highway-crash statistics, and other factors such as the presence or absence of specific design features.

It was also found that the state of knowledge is not well enough advanced, even with expert judgment, to develop a corresponding summary measure for crash avoidance. A major problem is the limited role that vehicle characteristics (as opposed to driving behavior) currently play in predicting crash likelihood. However, with many vehicle-technology improvements in development, crash-avoidance features may play a larger role in the future, and continuing attention to this area is merited.

Recommendations

In addition to the near-term steps recommended by the study committee to improve the automotive safety information currently available, consumers would benefit in the long term from predictive measures of the overall safety of new passenger vehicles. Recommendations for development of new summary measures and a communications strategy are provided (Figure 2).

Development of comprehensive and reliable vehicle-safety measures is a major task that requires a continuing long-term process. The study committee recommended that the Secretary of the U.S. Department of Transportation encourage automobile manufacturers and the insurance industry, among others, to join NHTSA in a voluntary effort to achieve these goals. It was recommended that Congress initiate the process with a formal request and appropriate funding, charging U.S. DOT to ensure the development by 2000 of reliable summary vehicle-safety measures and a mechanism for continuing improvements.

Two organizational approaches were identified as most likely to sustain these activities: a federal advisory committee or an independent institute supported by government and industry. Under either alternative, a fully operational program of research and vehicle testing and design initiatives would require annual resources of $10 million to $20 million or more, most of which could be expected to come from participating industries.

Benefits

Meaningful comparative information that is widely accessible and easy to obtain and use can provide a powerful market stimulus influencing consumer choice and manufacturer design of safer vehicles, ultimately reducing the number of fatalities and injuries. With about 15 million new passenger vehicles sold each year, there is a large potential market for clear and understandable comparative safety information. Moreover, automobile manufacturers would have an incentive to design safety improvements so their products receive good ratings on summary safety measures. The insurance industry would benefit from any reduction in claims arising from crashes. Finally, the value of even a small decline in net fatalities that could be attributed to a consumer automotive safety information program could be considerable, and, in the study committee's judgment, might easily exceed the costs of supplying better information to consumers and vehicle designers.

Committee for Study of Consumer Automotive Safety Information

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FIGURE 1 Recommended improvements to existing information.

1. Provide consumers with more explicit information on the following:
   - The importance of vehicle size and weight in crash outcomes,
   - The benefits of proper use of vehicle-safety features such as occupant restraint systems and antilock brakes,
   - The real-world frequency of those crash types for which crash-test results are available, and
   - The uncertainties associated with crash-test results.
2. Establish the reliability of crash-test results and identify the sources of variance.
3. Increase awareness of the availability of existing vehicle safety information and make it more accessible.

FIGURE 2 Recommended development of summary safety measures and communications strategy.

- Develop a summary measure of crashworthiness using defensible information supplemented with the judgment of safety experts.
- Develop a checklist of safety features related to crash avoidance instead of a summary measure.
- Provide the summary measures on a vehicle-safety label for all new passenger vehicles.
- Provide more detailed information in a vehicle-safety brochure and handbook available to consumers before they go to the showroom.
- Disseminate vehicle-safety information broadly through printed and electronic formats.